DOCUMENT RESUME

ED 191 453 IR 008 697

AUTHOR Klingersmith, Patricia J.
TITLE Training Program for Bibliographic Searching.
PUB DATE Mar 80
NOTE 11p.: Paper presented at the National Online Information Meeting (New York, NY, March 25-27, 1980).

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Computer Programs: *Data Bases: *Information Retrieval: Information Seeking: *Library Education: Library Skills: *Online Systems: *Training Methods

ABSTRACT

The University of Pittsburgh has developed software that stresses the teaching of systems rather than databases and replicates the language, formats, and search capabilities of the DIALOG, ORBIT, and BRS systems. Using a DEC 11/780 computer and samples of more than 60 databases, the University has successfully emulated the parent systems. A three-day training session provides each trainee with his own computer terminal while instructors monitor a CRT. The emphasis is on learning a system using system-oriented manuals, exercises, and handouts. Eighteen monthly training sessions conducted thus far have demonstrated that only those searchers who have a comprehensive knowledge of a system at a particular point in time can expect to take advantage of future developments. (Author/RAA)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED191453

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

TRAINING PROGRAM FOR BIBLIOGRAPHIC SEARCHING

by Patricia J. Klingensmith

On-Line Training Center
School of Library and
Information Science
University of Pittsburgh
Pittsburgh, PA 15260

National Online Information Meeting

March 25-27, 1980
New York, New York

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Patricia J.
Klingensmith

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

IR 008 697

TRAINING PROGRAM FOR

BIBLIOGRAPHIC SEARCHING

In 1970, a Campus-Based Information System (CBIS) was developed at the University of Pittsburgh. The intent was to integrate new, non-traditional resources and services into the library system thus providing the University community with a wider range of bibliographic reference materials and services than had been possible previously. The basic concept of CBIS, the synthesis of traditional and non-traditional services into a single user-oriented system, naturally involved extensive work with magnetic data bases.* It was realized that providing such services necessitated not only the acquisition of magnetic data bases and computerized equipment for retrieval but also involved the development of both an in-house computer program for user access and training programs for users. Partial funding was obtained through a grant from the National Science Foundation.

CBIS planned to handle many bibliographic data bases but the idea of having to write unique software packages for each data base was unthinkable. To avoid the continuous effort of writing and maintaining such a series of software packages, it was necessary to develop a single package that could handle any magnetic bibliographic data base. A collection of programs for searching text files using the PDP10 time sharing and/or batch systems, therefore, was developed. This system, the Pittsburgh Information Retrieval System (PIRETS), was first operative only in the batch mode.

---

* Although I am aware that the terms data base and file are not technically synonymous, nevertheless, I have used the terms interchangeably in this paper.

In November 1972, a dedicated line with a CRT terminal and a paper printer was installed at the University of Pittsburgh by The New York Times. This installation made the University the first organization outside of the Times own staff to have access to The Information Bank. It became obvious from our experience with this system that interested users could learn to conduct their own searches after some practice time on the terminal.

CBIS personnel became convinced that an interactive PIRETS oriented to the novice user would be the most efficient and effective way to service the University community. Consequently, a new front end software package was written expanding PIRETS into an interactive system; a current awareness option was added which allowed either the professional information specialist or the rank amateur to utilize the system. A manual was written (and rewritten many times) by the CBIS staff and training classes were established to teach terminal use and information retrieval using PIRETS. Close to 3,000 students, staff and faculty have been taught to use this system since the classes became available in January, 1975.

When PIRETS was developed, we had hoped to acquire numerous data bases or organize a network of academic institutions with whom Pitt could share these resources. That dream came to naught. Universities did not become the important vendors in bibliographic information retrieval; instead large commercial systems evolved while the number of available machine readable data bases increased by the proverbial leaps and bounds.

Our medical school library had Medline from the first; Hillman, the main library, had The Information Bank as a result of the work done for the New York Times; and the Law School acquired access to Lexis. Three years ago,

however, searches on most of the data bases available through Lockheed, System Development Corporation, or the Bibliographic Retrieval System were not being done on our campus. The University community wanted the resources accessible through these three commercial systems while the faculty of the Library School wanted the educational opportunities offered through such access. They realized that the ability to search the commercial systems would be a plus for our graduates in a tight job market. Since CBIS was responsible for PIRETS and had been responsible for the Information Bank, we were considered the experts in information retrieval. Both the staff from the libraries and the faculty from the Library School turned to us for help.

Aided by funding from the Buhl Foundation, we started to analyze the commercial systems in order to teach others to search them. It is both exciting and frustrating to start a new product. What background knowledge do you have? How much must you learn? What resources are already available? What do you need to acquire? What limitations must be imposed on your goals? Where do you start? What exactly do you expect to accomplish -- and is it economically feasible to even attempt it?

An interesting sidelight to the story of the creation of our On-Line Training Center is that while we were developing a team teaching approach to the training problem, Dr. Elain Caruso, of the same university, was developing a self learning resource called Trainer. Her program replicates the basic commands of DIALOG and ORBIT. Used in conjunction with the manual written by Dr. Caruso, any persistent user can teach himself the basic commands of two of the commercial systems.

What CBIS already had was two years of experience teaching over a thousand novices to use PIRETS and The Information Bank; samples of more than sixty of the commercially available data bases acquired from the developers; and a mini-computer, a DEC 1140. We also had certain pre-conceived notions. Based on our experiences teaching PIRETS, we felt that we could not teach data bases in-depth. We had discovered that our trainees encountered fewer problems when we devoted our training time to teaching the system and, in class, were content merely to point out the similiarities and differences of our files. We wrote descriptions for each available file and strongly urged hours of practice time on-line. Attempting to teach the myriad files available on ORBIT, DIALOG and BRS thus seemed to us an impossible task. There were just too many and their numbers were increasing constantly. Even if we tried to concentrate on only a few files, chances were that the chosen files would not be the exact ones wanted by our students in a given month. Then, too, we have samples of the data bases, not the complete files. Our samples usually consist of several months of the data base, averaging about 3,000 documents. Such a small segment is not an adequate subsection for in-depth teaching of a large file that might contain a million documents.

Our training experiences with The Information Bank gave us the grounds for another bias. We had had limited success with a computer program developed as a self learning tool. We felt we had trained our end users more successfully through demonstration and hands-on practice. We believed our trainees learned by doing. As with any mechanical skill, practice made, if not perfect, at least better. Thus, from the first, we were determined that each trainee should

have his own terminal throughout the entire session and our prime emphasis would be on hands-on practice.

Terminals need communication lines so we designed a special laboratory with ten terminals (the maximum class size that we considered should be taught by three teachers working as a team). Each terminal was placed on an individual table with its own telephone connection and each student was also given a writing table for his own use. A single CRT was attached to three large monitors for demonstration purposes.

While the teaching environment was being created, other related tasks were being done as quickly as possible. We acquired a superb programmer, Daniel Strick. Dan had the horrendous task of developing emulators of the three systems that would operate on a DEC PDP 11/40 and writing conversion-programs so the sample data bases could be used on the appropriate system. The emulators had to be so sophisticated that as seen and used by anyone, each would appear identical to the parent system.

The rest of the staff, meantime, were writing system manuals and guides to data bases and developing methodology. The summer of 1977, we began using these tools to teach our librarians to search the commercial systems. Based on the responses and reaction of our 'control' students we rewrote, revised, adapted, changed or just plain scrapped our materials. In April, 1978 we went public, teaching ten people in an intensive three day (spread over a four day period) session held in the new laboratory in the Library School building.

Over 200 trainees have attended our classes since April, 1978. Geographically the students have represented several provinces in Canada and all regions in the United States. Academically, they have represented all levels of educational backgrounds from Bachelors to Ph.D's in various disciplines. Their prior experience has been as diverse with some being complete novices who had

never put a finger to a terminal while others had been searching for several years.

What we started out teaching two years ago has had to be changed or supplemented almost every month. Our emulator software has been revised regularly because the systems make changes and improvements. Just as system or data base changes make work for our programmer, they also make work for the teachers who have had to rewrite and revise all our materials to keep our manuals and brief guides and file descriptions up-to-date. We struggled through several efitions of each manual with all the related problems (proof reading, correcting, etc). Now we have the text for the manuals stored on the computer. This allows us to make additions and/or changes on-line and to printout just enough copies for the ongoing class. Thus, we are assured of having a manual with the current commands and capabilities of the parent system without going through the tedious, time-consuming editing and subsequent proofing. We also acquired a new minicomputer, a DEC VAX 11/780. Two facets of our teaching have remained consistent and unchanged: our emphasis on the importance of on-line time; and our unwavering belief in the theory that with a comprehensive knowledge of the commands and capabilities of a system a user will be able to do a successful search on an unfamiliar data base if he carefully reads the file description.

To give our attendees a firm foundation on a system, we have created a series of exercises. The first day and a half of each session are spent on these with each participant doing the exercises individually, followed by a demonstration on the CRT along with explanations of the commands and/or capability involved. We use the ERIC file for the exercises because it is available on all three systems and the two data bases (CIJE and RIE) have so many searchable fields.

Consequently, many of a system's capabilities are displayed on this particular file. Often the attendees are familiar with ERIC's hard copy although they may never have searched the file on-line. They feel at ease with the material even if they have not used the hard-copy because they can understand the information retrieved. On the other hand, attendees with social science or business backgrounds might have difficulties evaluating thier output if it were from a hard science file.

We strive for a completely informal and stress-free atmosphere. We encourage peer interaction because we feel that much can be learned from hearing someone else's experiences. We advocate the use of first names, meet for coffee and doughnuts each morning, and have dinner together before our Wednesday evening session. We, the teachers, have profited also from this interchange. The informality is helpful, too, in relieving the nervous tension of the timid novices.

The three teachers (Dr. Elizabeth E. Duncan, Coordinator of the On-Line Training Center, Nina Ross and myself) are in attendance throughout the entire session. Individual instruction, therefor, is always available and we encourage the trainees to feel free to ask for help at any time.

Each month three files in addition to ERIC are discussed. We try to select files from diverse areas of interest; science, social science or humanities, and business. Humanities files have been slow in developing and are only now beginning to proliferate. Printed descriptions for each file are included with the attendees' materials and file similarities and differences are noted and discussed. Questions on each file are given to be searched on the emulators. The file questions are real ones, the only restriction being that they must be retrievable on our samples. We urge the students to search the same question

multiple ways to gain a more comprehensive understanding of how the computer operates. These same experiments could be done on the parent system but the cost deters most users from trying. Although the trainees are given identical questions, often they do not develop the same search strategies. The profiles used by the students for retrieval are demonstrated on the CRT and many times one question will produce three or four difference strategies. This situation reaffirms what we say over and over, that there are multiple ways to search a question -- some may be more efficient than others but different approaches still can yield relevant retrieval.

Since our files are small, our emulator response time is very fast. Due to the speed of response and freedom from cost worry, a considerable amount of searching can be done during a training session. Our trainees are on-line at least fifteen hours each session are are able to work at their own pace. We find that even rank amateurs gain noticeable speed by Wednesday (two days into the session).

The importance of studying file descriptions is another principle reiterated during the session. The last morning file descriptions are distributed along with questions and the trainees write strategies for searching the questions on these previously unstudied files. The results of this last series of questions have served to reinforce our belief that with a comprehensive knowledge of the system it is possible after studying an on-line file description to successfully search an unfamiliar file.

The last morning we also give a short lecture on the printed material available to support searching. We provide a list in each student's kit and display basic journals, thesauri, system manuals, newsletters, etc. We feel that

is important to alert the trainees to these ancillary materials and relevant journals. The value to a searcher of belonging to a user group or organization is emphasized.

The trainees are asked to fill out the ubiquitous evaluation form and most are kind enough to do so. We rely heavily on the information garnered by these questionnaires because the comments cue us to deficiencies in our teaching and we try to improve for the next class.

We feel that our training center and sessions are unique because of our emulators, the hours and hours of hands-on practice time, and the individual equipment allowing each attendee to work and learn at his own pace with little feeling of pressure and no sense of being judged and found wanting. We hope our attendees continue to agree and feel their training session has been a worthwhile and pleasant experience.